GARY R. HERBERT
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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

May 2, 2016

Stewart Lamb
Kilgore Companies
7057 West 2100 South
Salt Lake City, Utah 84128

Subject: Initial Review of Amended Notice of Intention to Commence Large Mining Operations, Kilgore Companies, Lincoln Pit Mine, M/049/0086, Utah County, Utah

Dear Mr. Lamb:

The Division of Oil, Gas and Mining has reviewed the referenced Notice of Intention to Commence Large Mining Operations (Notice) which was received March 30, 2016. The attached comments will need to be addressed before the Division issues tentative approval.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages for the original Notice using redline and strikeout text. Upon final approval, the Division will request two clean copies of the Notice. These will be stamped approved, and one copy will be returned to you.

The Bureau of Land Management has issued its comments under a separate letter.

The Division has the following general comments:

- The submittal should be formatted to easily incorporate additional revisions and amendments.
- The Division may have additional comments based on the review responses.

Please submit your response to this review by July 5, 2016.

The Division will suspend further review until receiving your response. Please contact April Abate at 801-538-5214 or me at 801-538-5261 if you have questions concerning the review.

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UTAH DNR
OIL, GAS & MINING

Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB: aa: eb
Attachment: Review
cc: Larry Garahana, BLM
P:\GROUPS\MINERALS\WP\M049-Utah\M0490086-LincolnPit\final\REV-7301-04262016.docx

**INITIAL REVIEW OF NOTICEOF INTENTION
TO COMMENCE LARGE MINING OPERATIONS**

**Kilgore Companies
Lincoln Pit Mine
M/049/0086
May 2, 2016**

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1		(Comment only; no response needed at this time.) Operator is proposing to expand the disturbed area from 41 to 102 acres. If the Division approves the expansion, the permit fee will increase from $500 to $1,000 per year.	aa	
2		Please remove all italicized text from the original template. This is language written by the Division asking questions regarding specific sections. Although this was in the original plan, it is not necessary and confuses the reader.	aa	
3		Please provide a copy of the fugitive dust control permit as an appendix.	aa	
4		If the hot plant is not included in the Notice, please provide, as an appendix, approvals from other applicable agencies, such as Utah County and the Department of Environmental Quality. See comment 28 below.	aa & pbb	
5		Please include as an appendix the stormwater pollution prevention permit (SWPPP) from the Utah Division of Water Quality. This permit will also need to be revised with the Utah Division of Water Quality to accommodate the mine expansion.	aa	
6		Please include as an appendix a spill prevention countermeasures and control plan (SPCC) if one has been prepared.	aa	
7		The name of the operation needs to be consistent throughout the document. It is referred to as both the Benjamin Quarry and the Lincoln Pit (and on figure 11A it references the Lakepoint Quarry).	lk	

R647-4-101 - Filing Requirements and Review Procedures

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
8		(Comment only; no response needed.) This permitting action is being processed as a significant revision under R647-4-118.2 and will be subject to the same provisions of an initial application for a Large Mine Notice of Intent.	aa	

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
9		All maps and figures need to be consistent with the text. This includes the name of the operation, as well as text references for slope descriptions and topsoil stockpile descriptions. Specific maps where conflicts were noted are referenced in appropriate sections below.	lk	

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
10	Omission	Identify existing power lines and any other infrastructure.	pnb	

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
11	Figure 2	The disturbance boundary outline does not include a small disturbance area in the southwest corner of section 23. The elevation contour lines showing this disturbance are visible on Figure 2.	pnb	
12	Figure 4	Please show the location of the fuel storage containment areas and the locations of stockpiles on this map.	aa	
13	Various Figures (5, 7, 7A, 7B, 8B)	Overall slopes in the north pit area are currently shown to be steeper than 2H:1V. To the degree that it is needed, change the mine design and associated elevation contours so these figures are consistent with the current or future text. The current text identifies maximum overall slopes of 2H:1V.	pnb	
14	Figure 6	Identify the unnamed components of the asphalt plant.	pnb	
15	Figure 7	More details regarding final reclamation are needed on this figure, such as how diversion channels will be reestablished, removal of retention ponds, and final slope configurations.	pnb & aa	
16	Figure 7	Water bars and energy dissipaters were referenced in the reclamation plan. Please show on this map where they will be located.	aa	
17	Figure 7	According to the reclamation plan, drainage swales will be reestablished. These features need to be shown on this map.	aa	
18	Figures 7A and 7B	Please label all cross sections (i.e. A-A') and enlarge the font on cross section stations and contours. They are difficult to read.	aa	
19	Figure 7B	Provide one cross-section that lies perpendicular to the slope in the north half of the pit.	pnb	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
20	Omission	Please provide a cross section showing slope configuration at final reclamation	aa	
21	Figure 8	The Notice references a historic impoundment in a drainage swale within the existing footprint of the mine. Please show the location of this impoundment on this map.	aa	
22	Figure 8B	Show the safety berm around the site, as discussed in Note #5.	pnb	
23	Figure 8B	Mine slopes will be steeper than 2H:1V in the north area of the pit. Correct the note on the map (committing to 2H:1V) accordingly.	pnb	
24	Figure 8B	Roadside ditches off the main access road were referenced in the plan as being diverted to the stormwater retention pond. Please show these diversions from the road ditches to the retention pond on this map.	aa	

R647-4-106 - Operation Plan

General Operation Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25		The plan states that 67.1 acres of mining will occur in the first phase. This would represent the entire expansion area. According to Figure 4, mining is shown in phases from A thru F. Please clarify what is meant by first phase of mining. It would be helpful to either include a table in this section showing the phases of mining indicating how many acres are planned for each phase and the approximate timeframes. Alternatively, or even in addition to a table, this information could be presented on Figure 4.	aa	

106.2 - Type of operations - mining method, onsite processing, deleterious or acid-forming materials

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
26	Page 9, para 6	Explain the pre-reclamation slope geometry (including distances and slopes) in more detail. Maps show that mined slopes will consist of alternating slopes and benches, with interbench slopes of 45 degrees (100 percent slopes). See a related comment in the reclamation section (110.2) with important implications to this design.	pnb	
27	Page 9, para 6	In the north part of the proposed disturbance area, the true planned slope is shown on figures to be steeper than 2H:1V. Correct the text discussion as needed.	pnb	
28	Page 10	The hot plant, including recycled asphalt (RAP) materials brought from off-site, is secondary processing and not covered by the R647 regulations; however, an official with Utah County has stated that the plant will need to be regulated and bonded for reclamation by the County if it is not included in the Division's Notice. The hot plant may remain a part of the Notice, or it could be removed and permitted with Utah County.	pnb & pbb	
29	Page 11	Under the concurrent reclamation header, the Notice says that as mining progresses north "fill" material will be backfilled into the southern areas where mining has been completed. Since no overburden is expected to be generated, where is the source for this fill material?	aa	

106.3 - Estimated acreages disturbed, reclaimed, annually/sequentially

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
30	Page 11	The maps report permitted acreage as about 107 acres, consistent with the correct bar scales. Correct the estimated acreage reported in the text.	pnb	

106.4 - Nature of materials mined or processed (including waste materials), and estimated annual tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
31	Omission	The recycled materials stockpile area will likely require an impermeable pad to underlie the stockpile so that any leachate can be contained to the pad. Please consult with the Utah Division of Water Quality regarding the stormwater permit to evaluate whether or not a lined pad is required.	aa	
32	Page 11	It is assumed that for this project, the topsoil is the overburden. The table in this section needs to be corrected to show the amount of topsoil being removed and stockpiled on an annual basis.	lk	

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
33	Page 13	While it is acceptable to stockpile topsoil in a berm around the site, it should not be compacted. Also, the side slopes of the berm need to be much flatter than the proposed 1.5H: 1V. Slopes this steep with soil materials are difficult to revegetate and are much more prone to erosion. Topsoil stockpile slopes should be about to 3H: 1V or less steep for best establishment of vegetation and erosion control of the pile. Some of the maps (Figures 4, 5 and 8b) indicate topsoil stockpiles will have a 2H: 1V slope and not exceed eight feet in height (the text on page 13 indicates 10 feet). The text and maps need to be consistent.	lk	
34	Page 13 Table 106.6.1	Please revise the seed mix for topsoil stabilization. There is no need to plant a sterile annual plant (triticale), it can be eliminated.	lk	
35	Page 13 Table 106.6.1	While northern sweet vetch is not necessarily undesirable, it does not provide much erosion control. The Division recommends that it be replaced with yellow sweet clover at a rate of 0.75 pounds per acre.	lk	

106.8 - Depth to groundwater, extent of overburden, geologic setting

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
36	Pg. 18	The text refers to Appendix E for the well log, but the well log is in Appendix D.	aa	
37	Pg. 18	This section lists the estimated quarry floor elevation as 4,810, but cross-section 7A shows one elevation profile with a floor cut elevation at 4,750.	aa	
38	Appendix D	It is unclear from the copy of the well log how it was determined that groundwater was estimated to be at an elevation below 4,434 feet.	aa	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
39	Appendix D	According to the Division of Water Rights interactive online map, there are several logs available for wells to the east of the mine. Please provide at least two additional well logs with reported depth to water measurements so that a better depth to groundwater estimate can be made.	aa	

R647-4-107 – Operation Practices

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
40	Page 20	References to slopes being no steeper than 2H:1V (including the reference to dozers traversing the 2H:1V slopes) will need to be modified, as discussed elsewhere.	pnb	
41	Page 21	This section states that a SPCC Plan will be developed for this mine. Has one been developed? Is it justified given the volume of on-site petroleum storage?	aa	

R647-4-109 - Impact Assessment

109.1 – Projected impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
42	Figure 8B and Page 22	Stormwater management design at this facility is limited to topsoil berms located along the southeast boundary of the disturbed area and a stormwater detention pond at the base of the expansion area. According to Figure 8B, there does not appear to be any outlet for runoff once it is diverted by the topsoil piles. In fact, stormwater appears to be directed to the recycled materials stockpile. There does not appear to be any retention basin in the facilities area where it is needed most. Please redesign the stormwater management plan showing how stormwater runoff will be collected in the vicinity of the facilities area.	aa	
43	Appendix E and Figure 8B	Rational method calculations were performed on anticipated runoff based on runoff from a 10-year, 24-hour storm for the topsoil berms only. No calculations were performed on the stormwater detention basin located at the base of the expansion area. Please provide calculations for a design storm event on this detention pond as well as a second retention basin in the facilities area and provide the approximate dimensions of the structures.	aa	
44	Figure 8B	Note 7is not entirely true. Stormwater from the natural drainage swales will be diverted to allow the upland drainage to bypass the active mining area, but the figure in its current form does not accurately show the drainages engineered to allow the bypass of stormwater. Currently the plan appears to show that they will be mined through. Note 12 shows that the side slopes within the pit will be maintained at 2H:1V although the contours are not accurately showing this.	pnb	

109.4 – Projected impacts on slope stability, erosion control, air quality, public health and safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
45	Page 24	Slopes in the north area are shown on maps to be reclaimed at overall slopes steeper than 2H: 1V. Update this text as needed, consistent with other references.	pnb	

R647-4-110 - Reclamation Plan

110.2 – Reclamation of roads, highwalls, slopes, impoundments, drainages, pits, piles, shafts, adits, etc

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
46	Pages 26-27	Slopes of unconsolidated material are required to be graded to a stable configuration and sloped to minimize safety hazards and erosion while providing for successful revegetation. Prior to regrading, unconsolidated materials naturally form slopes with a maximum steepness of approximately 37 degrees. Identify whether the steeper interbench slopes (shown to be sloped at 45 degrees on the figures) are planned to be built of unconsolidated or consolidated materials, and provide additional detail (e.g. general dimensions) on the reclaimed slope configuration.	pnb	
47	Page 26	Currently, under the heading of slopes the Notice say the area will be shaped to slopes of 2H: 1V. Please describe the various slope angles to be used, including general description (i.e. highwall interslopes, waste material dump slopes, pit floor slopes, etc.). As per the various maps, (Figures 4, 5, 7, 7a, 7b & 8b), slopes will vary from three to 100 percent.	pnb	
48		The Division does not recommend a benched configuration of slopes at final reclamation (refer to similar comments from the BLM).	aa	

110.4 - Description or treatment/location/disposition of deleterious or acid forming materials, including map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
49		If the hot plant remains part of the Notice, a reclamation plan is needed for the final disposition of the stockpile of hot asphalt recycled plant materials. It should be depicted on a map required per 110.4.	pnb & pbb	

110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
50	Page 29	The proposed seed mix could be revised to increase the likelihood of establishing a permanent, diverse vegetation community that will support the post mining land use. The Division recommends that the seeding rates for Basin wildrye and Indian ricegrass be reduced by 0.5 pounds pure live seed per acre each, the seeding rate for small burnet be reduced to 1.5 pounds, and that rubber rabbitbrush be eliminated from the seed mix. Please note that these are recommendations only.	lk	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
51	Summary Sheet	Please change Total Cost 2010 to Total Cost 2016 and 2013 Dollars to 2021 Dollars.	whw	
52	Demolition	Concrete costs 02 41 16.17 0420 is for a six-inch-thick floor. The cost is $1.11/square foot, but the units are in cubic yards.	whw	
53	Scale/Scale House 09	Concrete demolition. A number of 1600 is listed but with no units. A volume of 59 cubic yards is listed. 1600 cubic feet/27 cubic feet/cubic yard = 59 cubic yards. 1600 cubic feet/0.5 feet =3200 square feet. 3200 square feet * $1.11/square foot = $3,552 Please check all other demolition costs involving concrete.	whw	
54	Demolition	Concrete costs 31 23 16.42 1350 is for a front end loader. A disposal cost of $40.00 per ton is given for North Pointe Disposal. However, there is no cost for shipping the concrete debris to the disposal facility. Please include transportation costs. **An alternative would be to dispose of the concrete on site provided the land owner and the Department of Environmental Quality approve** Please include transportation costs for all concrete items.	whw	
55	Tank Removal	Please include cost to haul tanks to certified salvage sump. 02 65 10.30 1020 or 1023 or 1026	whw	